being faced to the metallized contact pad on the surface of the underlying connection layer, and the upper edge of the hole being coupled with the conductive paths on the upper surface of the upper-lying connection layer.

25. (New) The contact node according to Claim 24, wherein the metallized hole is in the form of a cylinder.

26. (New) The contact node according to Claim 25, wherein the upper edge of the metallized hole coupled with the conductive paths on the surface of the connection layer forms a metallized rim along the periphery of the edge.

27. (New) The contact node according to Claim 24, wherein the metallized hole is made in the form of a truncated cone, the lower base of the truncated cones being faced to the contact pad on the surface of the underlying connection layer, and the upper base of the truncated cones being coupled with the conductive paths on the upper surface of the upper-lying connection layer.

28. (New) The contact node according to Claim 27, wherein the upper edge of the metallized hole coupled with the conductive paths on the surface of the connection layer forms a metallized rim long the periphery of the edge.

29. (New) The contact node according to Claim 27, wherein an integrated circuit chip oriented by its metallized contact pads to the corresponding metallized holes in the upper-lying connection layer is used as a connection layer with the metallized contact pads respective to the metallized holes in the upper-lying connection layer.

30. (New) The contact node according to Claim 24, wherein the metallized contact pad is flat.

31. (New) The contact node according to Claim 24, further comprising a protrusion interacting with the respective metallized hole formed in the center of the metallized contact pad respective to the metallized hole.

32. (New) The contact node according to Claim 31, wherein the protrusion is in the form of a cylinder.

33. (New) The contact node according to Claim 31, wherein the protrusion is made in the form of cone.

34. (New) The contact node according to Claim 31, wherein the protrusion is in the form of a sphere.

35. (New) The contact node according to Claim 31, wherein the protrusion is made of a conductive material.

36. (New) The contact node according to Claim 31, wherein the protrusion is made of a solder.

37. (New) The contact node according to Claim 24, further comprising a contact made in the form of a rod fixed in the underlying connection layer orthogonally to its surface inserted into the metallized hole.

38. (New) The contact node according to Claim 37, wherein the rod has the form of a cylinder.

39. (New) The contact node according to Claim 37, wherein the rod has the form of a polygon.

40. (New) The contact node according to Claim 37, wherein the rod has grooves made along the generatrix thereof.

41. (New) The contact node according to Claim 40, wherein the grooves are interrupted.

42. (New) The contact node according to Claim 37, wherein the rod is made from a conductive material.

43. (New) The contact node according to Claim 37, wherein the rod is made from an electrical insulating material with a conductive coating.

44. (New) The contact node according to Claim 28, wherein the diameter D of the upper base of the truncated cone, the width h of the metallized rim, the diameter d of the lower base of the truncated cone, the thickness t of the dielectric material of the connection layer and the minimal width L of the respective metallized contact pad on the underlying connection layer are coupled with the following relationship:

$$L \geq D + 2h = d + 2t + 2h$$

45. (New) The contact node according to Claim 37, wherein the upper edge of the metallized hole coupled with the conductive paths and a lower edge of the metallized hole form metallized rims on the surfaces of the connection layer along the periphery of the edges.

46. (New) The contact node according to Claim 26, wherein the upper and lower edges of the metallized hole have a facet.

47. (New) A contact node, comprising:

a first connection layer having a conductive path on a surface thereof;

a second connection layer deposited adjacent to the first connection layer having a conductive path on a surface thereof; and

a metallized hole provided through the first connection layer and having an inner surface thereof connected to the conductive path of the first connection layer; and

a metallized contact pad provided on the surface of the second connection layer and connected with the conductive path of the second connection layer, wherein a conductive binding material is deposited in the metallized hole to be in contact with the inner surface of the metallized hole and the metallized contact pad so as to form connection between the first and second connection layers.

48. (New) The contact node according to Claim 47, wherein the metallized hole is in a form of a cylinder.

49. (New) The contact node according to Claim 48, wherein the metallized contact pad has a mertallized protrusion in a form of a sphere in the conductive binding material.

50. (New) The contact node according to Claim 48, wherein the metallized contact pad has a mertallized protrusion in a form of a cone in the conductive binding material.

51. (New) The contact node according to Claim 48, wherein the metallized contact pad has a mertallized protrusion in a form of a cylinder in the conductive binding material.

52. (New) The contact node according to Claim 48, wherein the metallized contact pad has a mertallized protrusion in a form of a rod in the conductive binding material.

53. (New) The contact node according to Claim 47, wherein the metallized hole is in a form of a truncated cone.

54. (New) The contact node according to Claim 53, wherein the metallized contact pad has a mertallized protrusion in a form of a sphere in the conductive binding material.

55. (New) The contact node according to Claim 53, wherein the metallized contact pad has a mertallized protrusion in a form of a cone in the conductive binding material.

56. (New) The contact node according to Claim 53, wherein the metallized contact pad has a mertallized protrusion in a form of a cylinder in the conductive binding material.

57. (New) The contact node according to Claim 53, wherein the metallized contact pad has a mertallized protrusion in a form of a rod in the conductive binding material.